KURTIS & ASSOCIATES, P.C.

SUITE 600
2000 M STREET, N.W.
WASHINGTON, D.C. 20036

(202) 328-4500
TELECOPIER (202) 328-1231

ORIGINAL

Report to the Federal Communications Commission on Carrier Efforts Toward Attaining Digital TTY Accessibility, and the Status of the Various Technological Solutions, as Provided by CC Docket No. 94-102, In the Matter of Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems

Missouri RSA No. 7 Limited Partnership dba Mid-Missouri Cellular ("MMC"), by its attorneys, pursuant to the Federal Communications Commission's ("Commission") *Fourth Report and Order* in CC Docket No. 94-102,[1] hereby files a Quarterly Report for the quarter ending March 31, 2001, detailing its efforts towards attaining digital TTY accessibility, and the status of the various technological solutions that will help it attain that goal.

In the *Fourth Report and Order* the Commission established December 31, 2001 as the new deadline for carriers operating digital wireless systems to have obtained all software upgrades and equipment necessary to make their systems capable of transmitting 911 calls from TTY devices. It further established June 30, 2002 as the deadline for carriers to integrate, test and deploy the technology in their systems in conjunction with the public safety community. In order to be assured that the aforementioned deadlines will be met without complication, the Commission required digital wireless carriers to submit Quarterly Reports fifteen days after the end of each quarter.[2] MMC now files this instant report with the Commission.

I. Carrier Background

MMC provides analog and digital CMRS wireless service in the Missouri 7 - Sedalia RSA.[3] MMC intends to do everything within its power to comply with the requirements of 20.18(c) of the rules, to provide hearing-impaired persons with TTY access via the 911 dialing code over its digital wireless network. However, the ability for TTY devices to actually transmit calls over the TDMA digital portion of MMC's network is wholly dependent upon the availability of the required infrastructure hardware and software and compatible handsets in sufficient time to meet the Commission's deadline. MMC respectfully submits that these items are both beyond MMC's control. Accordingly, MMC has requested information and a status update from its network infrastructure and primary handset provider regarding their ability to meet the Commission deadlines.

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[1] In the Matter of Revision of the Commission's Rules To Ensure Compatibility with Enhanced 911 Emergency Calling Systems, *Fourth Report and Order*, CC Docket No. 94-102, 15 Fcc Rcd 25216, 65 Fed. Reg. 82293 (December 28, 2000), ("*Fourth Report and Order*").

[2] *Id.*

[3] Station KNKN595.

II. Access to E911 Through TTY Devices

A. Development Activities

MMC utilizes analog AMPS and TDMA digital equipment provided by Nortel Networks ("Nortel") for its wireless network infrastructure. In response to MMC's inquiry, Nortel has provided a status update on its progress in achieving full compliance with the Commission's rules for the MMC infrastructure. Nortel's response is appended hereto as **Exhibit A**. MMC **is not** independently capable of verifying the information presented below but has no reason to believe that it is not accurate.

While MMC provides service to a number of brands of certified handsets owned by its subscribers and roamers entering its market, MMC's primary handset provider for subscriber equipment sold by MMC is Nokia. MMC has requested that Nokia provide information on its progress in achieving full compliance with the Commission's rules with its TDMA handsets. MMC has not yet received a response from Nokia, and therefore cannot report on their development activities.

The appended Nortel information is respectfully submitted in response to these issues, as required in the Commission's *Fourth Report and Order* (rel. Dec14, 2000).

(1) Network Infrastructure Software Development

(2) Handset Development and Testing Plans

(3) Beta Testing and Lab Testing

(4) Release and General Availability to Carriers of Network Infrastructure Software

(5) Availability to Carriers of Full Acceptance Test Units

(6) Efforts Toward Achieving Digital Wireless Solution Compatibility With Enhanced TTY Devices

B. Testing and Deployment Activities

Once equipment becomes available, MMC will perform the appropriate tests. The specific details of a time line to implement 911 access to TRS via TTY devices over the digital wireless network, and other issues related to such implementation, including handset development and testing, are tied to the technical specifications of the subscriber equipment that is being developed to provide TTY compatible service. As such, they are beyond the scope of information which MMC can provide. Such questions are more appropriately addressed by equipment vendors because the equipment vendors, and not the licensees, are directly involved in developing compliant equipment.

Because of the lack of available infrastructure hardware and software and compatibly handsets, MMC has yet to undertake any testing and development activities. However, Nortel's response has included some recommended testing procedures which, as of this point in time, MMC intends to follow once the requisite infrastructure and subscriber hardware and software is

available. The Nortel response addresses these issues, as set forth in the Commission's *Fourth Report and Order.*

(7) *Carrier Coordination of Testing With PSAP*

(8) *Carrier Testing Activities, Including Field Testing, Consumer End-to-end Testing, and Other Necessary Tests*

(9) *Retail Availability of Necessary Consumer Equipment*

(10) *Geographic Scope of Network Infrastructure Deployment*

III. Conclusion

As soon as the issues surrounding TTY access over digital networks are resolved, and assuming they are completed in a timely manner, MMC intends to promptly and fully comply with the requirements of the *Fourth Report and Order*, to obtain all software upgrades and equipment necessary to make their systems capable of transmitting 911 calls from TTY devices by December 31, 2001, and to integrate, test and deploy the technology in their systems in conjunction with the public safety community by June 30, 2002 but, respectfully submits, that its ability to do so, as of this point in time, remains entirely beyond its control. As required, MMC will provide the Commission with quarterly updates on the status of development and deployment, as advised by MMC's infrastructure and handset vendors and, if necessary, will seek a waiver of the applicable deadlines if the requisite equipment and software does not actually become available in sufficient time to enable MMC to meet the deadlines.

Respectfully Submitted,

Missouri RSA No. 7 Limited Partnership dba
Mid Missouri Cellular

April 13, 2001

Michael K. Kurtis
Anna E. Ward

It's Attorneys

Kurtis & Associates, P.C.
2000 M Street, N.W.
Suite 600
Washington, D.C. 20036
(202) 328-4500

EXHIBIT A

RESPONSE TO CUSTOMER April 11th 2001

Dear Missouri RSA No. 7 Limited Partnership d/b/a Mid-Missouri Cellular ("MMC"),

Enclosed is information regarding Nortel Networks' plans to comply with FCC TTY requirements, in response to your questions.

- Network infrastructure software/hardware development and testing
  Nortel response: Nortel Networks' development is complete, and product tests have been completed as well. Nortel tested with Panasonic prototypes (note other handset vendors were not available during Nortel's NBSS10.1 test cycle).

- Network infrastructure software/hardware planned general availability date
  Nortel response: In order to comply with the FCC's December 31, 2001 requirement for TTY/TDD, Nortel will be committing to deploying the enabling software as part of the MTX10 load only. MTX10 is scheduled for General Availability Week 44 2001. The order code for TDMA TTY/TDD is A08532470. Nortel Networks TDMA TTY solution does not require any new hardware besides what is currently available (ESEL cards -13K, EVRC and SEL cards - 13K). The network provisioning for TTY must be done the same way as for the voice subscribers.

- Schedule for deployment of the software/hardware in the MMC switch
  Nortel response: The minimum baseline software requirement for this feature to be deployed in MMC's switch is MTX09 or higher. On the BSCs, the baseline requirement is NBSS 10.1 or higher. Software is scheduled to be available Week 44 and will be scheduled for deployment on MMC's switch.

- Nortel Network's plans to test and confirm solution performance including additional tests referenced in Sections 20-23 of the order during the six-month extension allowed for this purpose in the order, January 1 through June 30, 2002.

  Nortel response: Regarding Section 20-23
  Turbocode/ HiSpeed is a proprietary feature on Ultratec/Ameriphone TTY device and is not supported by TDMA standards. If TDMA standards are enhanced to support these devices, Nortel will support this in a future release. However, standards are designed to avoid supporting propriety methods and there is no known effort to standardize the propriety features.

  Background: At the TTY Forum #16, Ultratec identified a unique problem their equipment users may have had calling 911 using their advanced proprietary protocol. Ameriphone also uses an advanced proprietary protocol. While the FCC directive and the Mission of the TTY Forum was only to provide a solution for a Baudot message to 911, a

committee from Forum #16 was formed to explore the feasibility of solutions for proprietary systems.

At the TTY Forum #17, March 14, 2001, the committee reported that

- Proprietary protocol manufacturers would advise their customers how to avoid problems with a digital wireless TTY/911 call
- Solution development should continue focus on providing solutions for Baudot TTY messages
- The Committee be dissolved

The proposals were adopted at the TTY Forum #17.

- Plans to test your own or other vendor TDMA handsets with your switch solution
  Nortel response: Even though the infrastructure software is scheduled well in advance of the Dec 31, 2001 FCC requirement, commercial handset general availability dates have not been scheduled by handset vendors. Nortel Networks recommends MMC engage its handset vendors for a thorough response to the FCC.

  Nortel Networks understands that it is most challenging for handset manufacturers to design TDMA TTY/911 solutions into handsets and have commercial availability by the FCC December 31, 2001 date, especially with "improved" code being suggested on a frequent basis. Nortel Networks is not surprised that, despite diligent work, firm handset availability dates were not generally available at the March 14, 2001 TTY #17 Forum. Nortel Networks believes that for TDMA solutions, the standard and any improvements should be locked down in order for all vendors to design to a common standard and common code set.

- Plans to work with any wireless carrier to perform end to end customer tests
  Nortel response: Nortel recommends MMC engage the chosen TDMA TTY handset vendor during network testing to do interoperability testing with the Nortel Networks solution.

- Plans to test with the Public Safety Community (PSAP's).
  Nortel response: Nortel recommends MMC schedule this testing with the PSAP centers during its network testing. Nortel Networks will work with MMC to identify PSAPs that would be willing to test an end-to-end solution. Additionally, it is recommended that 711 functionality be tested with Telecommunications Relay Service Centers (TRS's); 711 TTY capability is also mandated by the FCC.

Beyond the questions already responded to, we would like to address the issue raised at the TTY Forum #17 relating to echo cancellers and voice quality. Nortel Networks lab testing to date has not identified an echo canceller problem with Nortel Networks' equipment and software. Nortel Networks is aware that some other manufacturers have identified that the echo canceller issue

has created a performance problem with their TTY/911 solutions. Nortel Networks will continue to carefully review further results for any echo canceller problem in future testing, but we do not anticipate a problem with our solution at this time.

In conclusion, please note that the TTY Forum #17 Draft Report is available. This report includes information summarizing the activities and discussions that took place at the most recent forum. Should MMC require access to this report, please contact ATIS (Alliance for Telecommunications Industry Solutions) via Ed Hall (202) 628-6380 or Megan Hayes (202) 662 8653.

Regards,

Nortel Networks

CERTIFICATE OF SERVICE

I, Carol A. Mindzak, a secretary with the law firm of Kurtis & Associates, P.C., do hereby certify that I have this 13th day of April 2001, filed the foregoing "REPORT TO THE FEDERAL COMMUNICATIONS COMMISSION ON CARRIER EFFORTS TOWARD ATTAINING DIGITAL TTY ACCESSIBILITY, AND THE STATUS OF THE VARIOUS TECHNOLOGICAL SOLUTIONS, AS PROVIDED BY CC DOCKET NO. 94-102, IN THE MATTER OF REVISION OF THE COMMISSION'S RULES TO ENSURE COMPATIBILITY WITH ENHANCED 911 EMERGENCY CALLING SYSTEMS" electronically with the Federal Communications Commission's Electronic Comment Filing System. I have also filed a diskette copy of this report with the Federal Communications Commission's copy contractor, International Transcription Service. In addition, on this date, I have served copies of this Report via hand delivery or e-mail to the following:

Magalie Roman Salas, Secretary
Office of the Secretary
Federal Communications Commission
445 12th Street, S.W., Room TW-A325
Washington, D.C. 20554

Jim Schlichting, Chief
Policy Division
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, S.W., Room 3-C254
Washington, D.C. 20554

Pam Gregory, Chief
Disabilities Rights Office
Consumer Information Bureau
Federal Communications Commission
445 12th Street, S.W., Rm. 6-C415
Washington, D.C. 20554

Melinda S. Littell*
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, S.W., Room 3-A161
Washington, D.C. 20554
mlittell@fcc.gov

Carol A. Mindzak

Carol A. Mindzak

* Sent via e-mail